REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1, 3-4, 8-16, and 26-63 are presently active; Claims 2, 5-7, and 23-25 have been canceled without prejudice; Claims 17-22 have been withdrawn from consideration; and Claims 1 and 4 have been presently amended.

In the Office Action, Claims 1, 3, 15, and 16 were rejected under 35 U.S.C. §102(b) as being anticipated by Inoue et al (U.S. Pat. No. 6,218,206). Claims 2, 4, and 5 were rejected under 35 U.S.C. §103(a) as being unpatentable over Inoue et al in view of Yamamoto et al (U.S. Pat. No. 5,514,909). Claim 8 was rejected under 35 U.S.C. §103(a) as being unpatentable over Inoue et al in view of Takayama (U.S. Pat. No. 5,903,055). Claim 10 was rejected under 35 U.S.C. §103(a) as being unpatentable over Inoue et al. Claims 23 and 25 were rejected under 35 U.S.C. §103(a) as being unpatentable over Inoue et al in view of Yamamoto et al. Claims 6, 7, 9, and 11-14 were objected to as being dependent from a rejected base claim but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Independent Claim 24 had no applied rejection, yet was not listed as allowable.

Firstly, Applicants acknowledge with appreciation the courtesy of Examiner Nguyen to supply the patent number of Takayama over the telephone on March 10, 2004. It is requested that Takayama be listed on a PTO-892 form in the next Office Action.

Secondly, Applicants acknowledge with appreciation the courtesy of Examiner Nguyen to interview this case on March 16, 2005 during which time the issues in the outstanding Office Action were discussed as substantially summarized herebelow.

During the interview, Applicants' representative pointed out that aluminum metallizations have a particular oxidation problem, as disclosed in the specification and

reproduced below. Conventionally, this problem has been addressed by forming a barrier layer on the aluminum layer to reduce oxidation that would occur from exposure of the aluminum layer to oxygen during the formation of the overlying metal oxide layer. The specification discloses that:

> The reason for disposing a barrier metal in-between in the conventional technology is that, if aluminum or aluminum alloy wiring that constitutes signal conductors is brought into direct contact with the pixel electrode, the contact resistance will increase and display quality of a screen will deteriorate. This is because aluminum is very easy to oxidize and the surface thereof is easily oxidized in the air and because the pixel electrode is a metal oxide and hence aluminum is oxidized by oxygen generated at the time of film deposition and oxygen added at the time of film deposition to form an aluminum oxide layer on the surface thereof. Then, if an insulating material layer is formed in the contact interface between the signal conductors and the pixel electrode in this way, the contact resistance between the signal conductors and the pixel electrode will increase and the display quality of a screen will deteriorate.[1]

However, as discussed in the specification, adding a barrier layer adds cost and complexity to a TFT fabrication process.[2]

In the present invention, the oxidation problem is addressed without necessarily using a barrier layer. The specification at page 9, line 25, to page 10, line 17, discloses that:

> According to the present invention, any one of noble metals hard to oxidize, such as Au and Ag, or elements each of whose oxide has a comparatively low electrical conductivity, such as Zn, Co, Ni, Sr, Ge, and Sm, or an element that has a low solid solubility limit in aluminum, such as Bi, in trace amounts is made to be contained in an aluminum alloy film. And an area having a low electric resistance is formed partly or all-over in the contact interface between the first electrode and the second electrode (aluminum alloy film) without deteriorating electrical conductivity of the film itself as a wiring material. Consequently the contact resistance between the first electrode and the second electrode (aluminum alloy film) is reduced considerably, making possible to reduce the number of steps and manufacturing cost considerably. Furthermore, when this invention is applied to the liquid crystal display, the display quality thereof can be maintained at a high level. Furthermore, heat resistance can be increased considerably by adding at least one element selected from Nd, Y, Fe, and Co.

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[1] Specification, page 3, lines 3-13.
[2] Specification, see pages 3 and 4.

This effect is accomplished in one embodiment of the present invention in which, as shown in Applicants' Figure 11, the precipitates exists extending across the contact region between the aluminum alloy layer and the metal oxide layer such as to contact the metal oxide film to the aluminum alloy film by the precipitate.

No agreement on patentability was reached during the interview.

To expedite allowance of the present application, the identified allowable subject matter has been included in the amended and new independent claims. Thus, it is respectfully submitted that the claims now contain allowable subject matter and patentably define over the applied references.

Consequently, in view of the present amendment and in light of the above discussions, the outstanding grounds for rejection are believed to have been overcome. The application as amended herewith is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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